

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended): A production method of a ferrite material comprising as main constituents  $\text{Fe}_2\text{O}_3$ : 62 to 68 mol%,  $\text{ZnO}$ : 12 to 20 mol%, and  $\text{MnO}$  substantially constituting the balance, characterized by comprising:

a compacting step for obtaining a compacted body by using a powder comprising said main constituents, wherein said powder has a specific surface area falling within a range between 2.5 and 5.0  $\text{m}^2/\text{g}$  and a 90% particle size of 10  $\mu\text{m}$  or less; and

a sintering step for sintering said compacted body obtained in said compacting step; wherein

a 50% particle size of said powder falls within a range between 0.8 and 1.8  $\mu\text{m}$  and a 10% particle size of said powder falls within a range between 0.55 and 0.73  $\mu\text{m}$ .

2. (Cancelled).

3. (Original): The production method of a ferrite material according to claim 1, characterized in that the specific surface area of said powder falls within a range between 2.7 and 5.0  $\text{m}^2/\text{g}$  and the 90% particle size of said powder is 5  $\mu\text{m}$  or less.

4. (Original): The production method of a ferrite material according to claim 1, characterized in that said sintering step comprises:

a temperature increasing process for increasing the temperature up to a predetermined temperature, wherein a temperature range having a partial pressure range of oxygen of 4.0% or less is provided;

a temperature retention process for retaining the sintering atmosphere at said predetermined temperature; and

a temperature decreasing process subsequent to said temperature retention process.

5. (Original): The production method of a ferrite material according to claim 1, characterized in that said sintering step comprises:

a temperature retention process for retaining the sintering atmosphere in a predetermined temperature range; and

a temperature decreasing process to be carried out in a nitrogen atmosphere subsequent to said temperature retention process, wherein a slow cooling range having a cooling rate of 100°C/hr or less is set in said temperature decreasing process.

6. – 10 (Cancelled).

11. (Currently Amended): The production method of a ferrite material according to ~~any one of claims~~ claim 1, 6 and 9, characterized in that said ferrite material comprises NiO: 5 mol% or less (not inclusive of 0%) and/or LiO<sub>0.5</sub> less than 4 mol% (not inclusive of 0).

12. (Currently Amended): The production method of a ferrite material according to ~~any one of claims~~ claim 1, 6 and 9, characterized in that said ferrite material has a saturation magnetic flux density at 100°C of 470 mT or more (measurement magnetic field: 1194 A/m), and a core loss of 1400 kW/m<sup>3</sup> or less (measurement conditions: 100 kHz, 200 mT).

13. (Currently Amended): The production method of a ferrite material according to ~~any one of claims~~ claim 1, 6 and 9, characterized in that said ferrite material has a volume resistivity of 0.13 Ω·m or more at room temperature.

14. (Currently Amended): A production method of a ferrite material comprising as main constituents  $\text{Fe}_2\text{O}_3$ : 62 to 68 mol%,  $\text{ZnO}$ : 12 to 20 mol%, and  $\text{MnO}$ , characterized by comprising:

\_\_\_\_\_ a compacting step for obtaining a compacted body by using a powder comprising said main constituents, wherein said powder has a specific surface area falling within a range between 2.5 and 5.0  $\text{m}^2/\text{g}$  and a 90% particle size of 10  $\mu\text{m}$  or less;

\_\_\_\_\_ a sintering step for sintering said compacted body obtained in said compacting step; wherein

~~The production method of a ferrite material according to any one of claims 1, 6 and 9, characterized in that in said sintering step, a screen substance is arranged to block the direct collision of the gas flow generated in the sintering atmosphere against said compacted body.~~

15. (Original): The production method of a ferrite material according to claim 14, characterized in that said sintering is carried out while a plurality of said compacted bodies are laminated, and said screen substance is arranged so as to surround said compacted bodies.

16. (Previously Presented): The production method of a ferrite material according to claim 15, characterized in that said screen substance is constituted of a sintered body having substantially the same composition as that of the desired ferrite material.

17. (Currently Amended): A ferrite material characterized in that ~~the core loss thereof is 1400  $\text{kJ}/\text{m}^3$  or less (measurement conditions: 100 kHz, 200 mT), and:~~

the ferrite material is made of a sintered body comprising as main constituents  $\text{Fe}_2\text{O}_3$ : 62 to 68 mol%,  $\text{ZnO}$ : 12 to 20 mol%, and  $\text{MnO}$  substantially constituting the balance;

the saturation magnetic flux density thereof at 100°C is 470 mT or more (measurement magnetic field: 1194 A/m); and  
the volume resistivity thereof at room temperature is 0.13  $\Omega \cdot m$  or more.

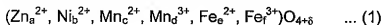
18. (Original): The ferrite material according to claim 17, characterized in that the ferrite material comprises Si and Ca as first additives in a combined content of 900 to 3000 ppm in terms of  $SiO_2$  and  $CaCO_3$ , respectively, under the condition that  $SiO_2/CaCO_3 = 0.055$  to 0.30.

19. (Original): The ferrite material according to claim 17, characterized in that the ferrite material comprises Si and Ca as first additives in a combined content of 1700 to 3000 ppm in terms of  $SiO_2$  and  $CaCO_3$ , respectively, under the condition that  $SiO_2/CaCO_3 = 0.055$  to 0.19.

20. (Original): The ferrite material according to claim 17, characterized in that said ferrite material comprises NiO: 5 mol% or less (not inclusive of 0%) and/or  $LiO_{0.5}$ : less than 4 mol% (not inclusive of 0).

21. (Currently Amended): The ferrite material according to claim 17, characterized in that ~~the core loss thereof is 1400  $kW/m^3$  or less (measurement conditions: 400 kHz, 200 mT), and the core loss change rate thereof is 10% or less~~ (core loss change rate =  $(P_{cv1} - P_{cv2})/P_{cv1} \times 100$ ,  $P_{cv1}$ : core loss before high temperature storage,  $P_{cv2}$ : core loss after high temperature storage, high temperature storage: 150°C  $\times$  2000 hours).

22. (Currently Amended): The ferrite material according to claim 17, characterized in that the  $\delta$  value (the cation vacancy amount) in the following ferrite composition formula (1) is 0.0033 or less:



where  $a + b + [C] \leq d + e + f = 3$ , and

$$\delta = a + b + c + (3/2)d + e + (3/2)f - 4.$$

23. (Original): The ferrite material according to claim 17, characterized in that: said ferrite material comprises  $\text{LiO}_{0.5}$ : less than 4 mol% (not inclusive of 0); the saturation magnetic flux density thereof at 100°C is 490 mT or more (measurement magnetic field: 1194 A/m); and the core loss thereof is 1300 kW/m<sup>3</sup> or less (measurement conditions: 100 kHz, 200 mT).

24. (Currently Amended): The ferrite material according to claim 17, characterized in that the ferrite material comprises as second additives, at least one selected from  $\text{Nb}_2\text{O}_5$ : 400 ppm or less (not inclusive of 0),  $\text{ZrO}_2$ : 1000 ppm or less (not inclusive of 0),  $\text{Ta}_2\text{O}_5$ : 1000 ppm or less (not inclusive of 0),  $\text{In}_2\text{O}_3$ : 1000 ppm or less (not inclusive of 0), and  $\text{Ga}_2\text{O}_3$ : 1000 ppm or less (not inclusive of 0).

25. (Currently Amended): The ferrite material according to claim 17, characterized in that the ferrite material comprises, as third additives, at least one selected from  $\text{SnO}_2$ : 10000 ppm or less (not inclusive of 0) and  $\text{TiO}_2$ : 10000 ppm or less (not inclusive of 0).

26. (Currently Amended): The ferrite material according to claim 17, characterized in that the ferrite material comprises, as fourth additives, at least one selected from a P compound: 35 ppm or less (not inclusive of 0) in terms of P,  $\text{MoO}_3$ : 1000 ppm or less (not inclusive of 0),  $\text{V}_2\text{O}_5$ : 1000 ppm or less (not inclusive of 0),  $\text{GeO}_2$ : 1000 ppm or less (not inclusive of 0),  $\text{Bi}_2\text{O}_3$ : 1000 ppm or less (not inclusive of 0), and  $\text{Sb}_2\text{O}_3$ : 3000 ppm or less (not inclusive of 0).